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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,837	02/23/2004	Yukiko Takeda	HITA.0506	5428

7590 REED SMITH LLP Suite 1400 3110 Fairview Park Drive Falls Church, VA 22042	08/31/2007
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EXAMINER	
KANE, CORDELIA P	

ART UNIT	PAPER NUMBER
2132	

MAIL DATE	DELIVERY MODE
08/31/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/782,837

Applicant(s)

TAKEDA ET AL.

Examiner

Cordelia Kane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/23/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is responsive to the non-provisional application filed on February 23, 2004. Claims 1 – 16 are pending. Claims 1, 4, 8, 12 and 16 are independent.

#### ***Priority***

2. Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).

Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

#### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The

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abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### ***Claim Objections***

5. Claim 5 is objected to because of the following informalities: "A reply to the inquiry that indicative of that" is improper grammar. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. Applicant refers to a "signal reply" it is unclear from the specification what exactly is meant by a signal reply. The examiner is assuming it is the same as a reply.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 4 – 8, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Aura's US Publication 20050041634 A1. Referring to claim 1, Aura teaches:

- a. A processor for issuing and guaranteeing public key certification (page 4, paragraph 39).
- b. A memory for holding information on prefix allocation allow/prohibit information of a terminal device (page 3, paragraph 33).
- c. A communications interface for receiving a public key issue certification request and rewriting said prefix allocation allow/prohibit information (page 3, paragraph 33).

- d. The processor is structured to rewrite the allow/prohibit information and provide the certificate to the terminal device (page 4, paragraph 39).
10. Aura teaches that the access router provides the certificate and the prefix to the terminal device. It is inherent that the router is allowing the prefix allocation.
11. Referring to claim 4, Aura teaches:
- e. Communicating with a server device containing a function to issue and guarantee public key certification and prefix allocation allow prohibit information; a transceiver for acquiring public key certification (page 4, paragraph 39).
  - f. A routine to maintain security by utilizing IPsec technology (page 3, paragraph 39), and storage to store a terminal device location information (page 3, paragraph 35).
  - g. Information confirming the identity of the terminal device is received, and a public key certification is acquired (page 3, paragraph 34).
12. Referring to claim 5, Aura teaches:
- h. An information processing device having a prefix allocation function (page 3, paragraph 35).
  - i. Information confirming the identity of said terminal is received from said terminal device (page 4, paragraph 38).
  - j. Information regarding prefix information is made to said information processing device (page 4, paragraph 39).

k. A reply to the inquiry indicative that said prefix was allocated is made from the information processing device; then a signal reply confirming the identity of the terminal is sent to the terminal device (page 5, paragraph 49).

13. Referring to claim 6, Aura teaches that the security information is compared and if it matches then there is a binding update (page 5, paragraphs 48-49).

14. Referring to claim 7, Aura teaches that the prefix information is reported to the terminal device (page 3, paragraph 35).

15. Referring to claim 8, Aura teaches:

l. A server device that issues a public key certificate and rewrites prefix allocation information (page 3, paragraph 33, page 4, paragraph 39).

m. An information processor receives prefix allocation request and makes an inquiry for allow/prohibit information and allocates prefix information to said terminal device (page 3, paragraph 34).

n. A terminal control device that receives information confirming the identity of the terminal device and sends prefix information to said information processor device (page 5, paragraph 49).

o. The information processing device establishes a security association between the terminal device and the terminal control device (page 3, paragraph 35).

16. Referring to claim 11, Aura teaches:

p. Said terminal device communicates with the server device holding the public key certification information (page 3, paragraph 31).

q. Said information processing device sends prefix information to the terminal device (page 3, paragraph 34).

17. Claims 12 – 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Akhtar et al's US Patent 6,769,000 B1. Referring to claim 12, Akhtar discloses:

- r. Powering on a terminal (column 43, lines 25-26).
- s. Sending a router advertisement to the terminal from a visited network router (column 52, lines 4-5).
- t. Creating a care of address in the terminal (column 52, lines 16-17).
- u. Sending a device authentication request to the visited network router from the terminal (column 52, lines 5-6).
- v. Sending a public key certification issue request with a public key of the terminal and a terminal ID to a calling authority server over an IP protocol network (column 43, lines 48-54).
- w. Issuing a public key certification issue response from the calling authority server compatible with Ipv6 protocol (column 44, lines 20-24).
- x. Sending a DHCP solicit message from the terminal to a home agent server compatible with Ipv6 protocol (column 58, lines 30-32).
- y. Responding to the terminal with a DHCP advertise message included in an Ipv6 protocol payload (column 58, lines 44-46).
- z. Sending a DHCP request to the home agent server from the terminal (column 59, lines 3-4).



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- aa. Sending a DHCP reply to the terminal with prefix delegation (column 61, lines 30-38).
  - bb. Creating a home address in the terminal (column 61, line 36).
  - cc. Sending a home agent address discover request to the home agent server (column 61, lines 52-55).
  - dd. Responding with a home agent address discovery reply from the home agent server to the terminal (column 61, lines 30-38).
  - ee. Acquiring the home agent server home address in the terminal (column 61, lines 36-38).
  - ff. Establishing an IPsec security association and digital signature via IKE and a secure communication channel between the terminal and a home agent server (column 18, lines 51-53).
  - gg. Making a location binding update in the terminal using the IPsec security association (column 51, lines 16-18).
  - hh. Thereby providing an authentication method for verifying a terminal authenticity by linking a digital signature method with a location binding update method (column 31, lines 18-27).
18. Referring to claim 13, Akhtar teaches that the terminal is an IPv6 (column 7, lines 41-44) compatible terminal with a DHCP requesting function (column 13, lines 30-32).
19. Referring to claim 14, Akhtar teaches:

- ii. A device authenticating a server is included in the IP network for controlling ID information required to access the home agent router (column 12, lines 48-53).
- jj. A communications gateway is included in the IP networking comprising a DHCP-PD requesting router function which handles the DHCP communications to the terminal from the home agent server and the calling authority (column 8, lines 28-35).
- kk. Wherein the terminal does not have to have a DHCP function and so that terminals without DHCP functions can be authenticated and their location can be updated according to the method (column 13, lines 47-52).

***Claim Rejections - 35 USC § 103***

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aura as applied to claim 1 above, and further in view of Turner et al's US Patent 6,018,524.

23. Aura discloses all the limitations of the parent claim, as well as communicating with a prefix allocation function (page 3, paragraph 33). It is inherent that there is communication with a prefix allocation function since the prefix is allocated. Aura does not explicitly disclose searching the prefix allocation allow/prohibit information. However, Turner discloses searching prefix information (column 5, lines 35-36). Since a prefix is allocated it is inherent that it would be allowed.

24. Aura and Turner are analogous art because they are from the same field of endeavor, routing data. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Aura and Turner before him or her, to modify prefix allocation of Aura to include the searching of Turner. The motivation for doing so would have been that the scaling issues with prefixes require a more complex lookup (column 2, lines 54-55).

25. Claims 9 and 10 rejected under 35 USC 103 (a) as being obvious over Aura in view of Wada et al's US Patent 5,517,618. Aura discloses all the limitations of the parent claim as well as:

- II. That the terminal control device receives a location registration request from the terminal device, loads the security association (page 5, paragraph 48)

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mm. That the terminal control device approves the location registration when the registration request fulfills the security association (page 5, paragraph 49)

26. Aura does not explicitly disclose a communications device between the home and visiting network. However, Wada discloses a gateway between the home and visiting networks (Figure 15, column 27, lines 32-35). Since the prefix allocation request goes from the mobile node to the server, it inherently would go through the gateway.

27. Aura and Wada are analogous art because they are from the same field of endeavor, mobile roaming. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Aura and Wada before him or her, to modify Aura to include the gateway of Wada.

28. Claim 15 is rejected under 35 USC 103 (a) as being obvious over Akhtar in view of Hesham Soliman's "Hierarchical MIPv6 Mobility Management". Akhtar discloses all the limitations of the parent claim as well as that the home agent may send the DHCP request message for the mobile node (column 13, lines 47-52). Akhtar does not explicitly disclose HMIPv6 and MAP bindings. However, Soliman discloses:

nn. Including HMIPv6 Mobile Anchor Point function in a communication device and HMIPv6 is compatible with the terminal (page 5).

oo. The HMIPv6 contains a management table for linking the Regional CoA with the local CoA (page 5).

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pp. That the HMIPv6 acts as a home agent (page 5). Since the HMIPv6 is acting as a home agent then it would also be sending the DHCP message as taught by Akhtar.

29. Akhtar and Soliman are analogous art because they are from the same field of endeavor, mobile IPv6. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Akhtar and Soliman before him or her, to modify Akhtar to include HMIPv6 MAP of Soliman. The motivation for doing so would have been to reduce the amount of signaling to CN's and the HA and improve the performance of MIPv6 in terms of handoff speed (page 1, Abstract).

30. Claim 16 is rejected under 35 USC 103 (a) as being obvious over Akhtar in view of Aura. Akhtar discloses :

qq. Powering on a terminal (column 43, lines 25-26).

rr. Sending a router advertisement to the terminal from a visited network router (column 52, lines 4-5).

ss. Creating a care of address in the terminal (column 52, lines 16-17).

tt. Sending a device authentication request to the visited network router column 52, lines 5-6).

uu. Sending a public key certification request with a public key and a terminal ID to a calling authority (column 43, lines 48-54).

vv. Issuing a public key certification issue response from the calling authority compatible with Ipv6 (column 44, lines 20-24).

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ww. Establishing an IPsec security association and digital signature via IKE and a secure communication channel using phase I and phase II IPsec ISAKMP protocols between the terminal and the home agent server (column 18, lines 51-53).

xx. Making a location binding update in the terminal using the IPsec security association (column 51, lines 16-18).

yy. Thereby providing an authentication method for verifying a terminal authenticity by linking a digital signature method with a location binding update method (column 31, lines 18-27).

31. Akhtar does not explicitly disclose sending a request to verify the public key, then allocating the prefix, and making a location binding update. However, Aura discloses:

zz. Sending a request to check the public key certification to the calling authority (page 4, paragraph 39).

aaa. Responding from the calling authority server whether prefix allocation is allowed with a prefix and creating a home address in the terminal (page 3, paragraph 33-34).

bbb. Making a location binding update by the terminal using a binding cache from the home agent server (page 3, paragraph 35).

32. Akhtar and Aura are analogous art because they are from the same field of endeavor, roaming of mobile nodes. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Akhtar and Aura before him or her, to modify Akhtar to include verifying the public key, allocating a prefix,

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and binding the location of Aura. The motivation for doing so would have been to make the location of the node verified (Aura, page 4, paragraph 45).

### **Conclusion**

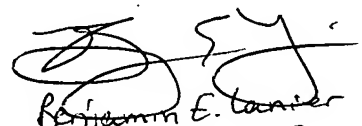
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cordelia Kane whose telephone number is 571-272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CK

Cordelia Kane  
Patent Examiner  
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